

REMARKS

Claims 1-11, 13-20 and 22-24 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Jones in view of Covi. Claims 12 and 21 have been indicated to be allowable if amended to include the limitations of the claims on which they are dependent.

Generally, the present invention is associated with a circuit that may be attached to different power sources providing different voltages. In such cases, control of current alone may not protect the circuit from receiving too much power because power is a function of both current and voltage, and the voltage, as mentioned, may change depending on the power supply used. On the other hand, it may not be sufficient to protect the circuit against excess voltage only, because a fixed voltage threshold may deny the circuit with adequate power in some cases. See, generally, the Description of the Related Art in the present application at paragraphs [0002]-[0006].

The independent claims 1 and 7 have been amended to better indicate the purpose of the circuit of the present invention in limiting the power consumed by associated electronics, and the invention's disconnecting of the power source from the load circuits based on a current threshold value that is changed as a function of the voltage applied to the equipment rather than being fixed. This scheme effectively monitors power dissipation, not simply current or voltage usage.

In light of this amendment, it is believed that the rejection over the Jones and Covi patents may be traversed. Jones in Fig. 1, provides a current sensing circuit to control the charging of a battery (by controlling current). Thus, it is not a protection circuit for circuits as required by the present invention nor is it sensitive to power received by the battery. While the current of Jones is sensed by measuring the voltage drop across resistor R_{sense} , the applied voltage to a device to be protected (as required by the present claims) is not measured. Applicant has reviewed the Jones application and has found no indication that Jones measures power or recognizes that power measurement would be important in a battery charger controller when the charging voltage is well known.

Covi does not remedy the deficiencies of Jones. Covi also teaches a circuit that is

only sensitive to current. Fig. 3 of Covi shows an operational amplifier 20 that receives a signal from the top of resistor R_s connected also to ground. The voltage applied to load 12 cannot be determined from this measurement and thus the output of operational amplifier 20 does not indicate the voltage applied to the load circuit.

Arguably, the voltage on resistor R_s in Covi is sensitive to variations in the voltage applied to the load, even though the load voltage may not be determined. In order to eliminate this possible ambiguity in the coverage of the claims, the claims have also been amended to indicate that the present invention responds to a determination of the voltage applied to the load not simply variations in the voltage applied to the load.

Because none of the elements of Jones or Covi can determine the voltage applied to the load and because they do not control the current level based on that determination, they cannot anticipate claims 1 and 7 as amended. More generally, neither Jones nor Covi, nor the two in combination, teach a current threshold value that is changed based on a voltage applied to the load circuits.

It is believed that absent the context of the present invention, of allowing circuits to be used safely with a variety of power supply voltages, described generally at paragraph [0003] of the present invention, there would be no motivation for a person of ordinary skill in the art to move beyond the simple voltage or current control taught by the cited references.

Claims 14-20 have been cancelled in the interest of expediting the prosecution.

Claim 21 has been amended as proposed by the Examiner, to bring it into condition for allowance.

In light of the present remarks and amendments, it is believed that claims 1 and 7 and the claims dependent on claims 1 and 7 including claims 2-6 and 8-13 are now in condition for allowance. In addition it is believed that claim 21, amended as proposed by the Examiner, and claims 22-24, dependant on claim 21, are also in condition for allowance. Allowance is respectfully requested for these claims.

Very truly yours,

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